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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,855

03/29/2004

Christopher J. Mills

04-0073

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7590

08/29/2007

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EXAMINER

PAINTER, BRANON C

ART UNIT

PAPER NUMBER

3609

MAIL DATE

DELIVERY MODE

08/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/708,855

Applicant(s)

MILLS, CHRISTOPHER J.

Examiner

Branon C. Painter

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 25-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 29-40 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species:

Species A (Fig. 3A), Species B (Fig. 9), and Species C (Fig. 10). The species are independent or distinct because the species as claimed are patentable over each other, and there is nothing of record to show them to be obvious variants.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-22, 29-33, and 36-40 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

2. During a telephone conversation with Joshua Broitman on 08/07/07 a provisional election was made to prosecute the invention of Species A (Fig. 3A), claims 23, 24, 34, and 35. As no mention of traverse was made, the examiner assumes the

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election was made **with** traverse. Affirmation of this election of species and state of traverse must be made by applicant in replying to this Office action. Claims 25-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 03/29/04 is being considered by the examiner.

Specification

4. The disclosure is objected to because of the following informalities:
 - a. Paragraph 29, multiple lines, "staircase system 2'." Fig. 2 is discussed in paragraph 29 and shows staircase system 2'. For the purpose of this examination, the examiner presumes this should read "staircase system 2'."Appropriate correction is required for all the preceding objections.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 36 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "a plurality of stair elements having a plurality

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of circular outer edges” is vague and indefinite. It is unclear whether each of a plurality of stair elements has one circular outer edge or more than one circular outer edge. For the purpose of this examination, the examiner presumes that each stair has one circular outer edge.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 6-8, 10-15, 17-20, 29-31, 33, and 36-37 are rejected under 35

U.S.C. 102(b) as being anticipated by Viking Selstair

(<http://web.archive.org/web/20030418025432/www.viking->

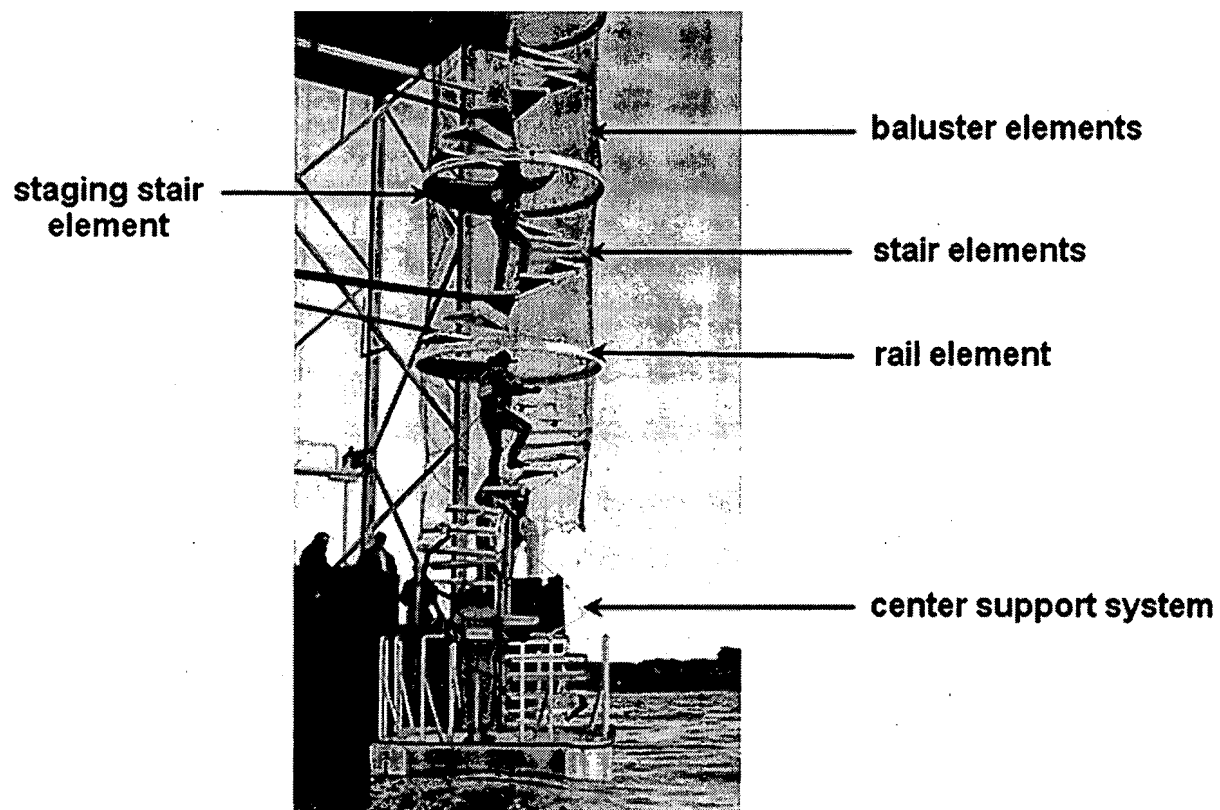
[life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument](http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument); referred to from this point on as Viking).

9. Regarding claim 1, Viking discloses a collapsible spiral staircase having all of the applicant's claimed structure, including:

- a. “at least one rail element...” (ring-shaped “rail elements,” examiner amended Fig. 1).
- b. “...a plurality of stair elements...” (“stairs,” examiner amended Fig. 1).

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- c. "...a plurality of baluster elements coupled to said at least one rail element and to said plurality of stair elements..." (the vertically-oriented strands of the surrounding netting are "baluster elements," examiner amended Fig. 1).
- d. "...a center support system coupled to and supporting said at least one rail element and said plurality of stair elements, and having a stowed state and a deployed state." ("center support system" refers to plurality of vertical winch wires that extend the length of the staircase, examiner amended Fig. 1).



Reproduced from Viking Archived Website (Examiner amended Fig. 1)

10. Regarding claims 2 and 13, Viking discloses rail [claim 2] and baluster [claim 13] elements in the form of a potential energy devices ("rail element" and "baluster

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elements," examiner amended Fig. 1). These elements have potential energy proportional to their height above ground-level.

11. Regarding claims 3 and 14, Viking discloses rail [claim 3] and baluster [claim 14] elements that assist in contracting the support system into a stowed state ("rail element" and "baluster elements," examiner amended Fig. 1). Both elements cooperate with winch wires to lift the stairs into a stowed state.
12. Regarding claims 4 and 15, Viking discloses rail [claim 4] and baluster [claim 15] elements that assist the support system into a deployed state ("rail element" and "baluster elements," examiner amended Fig. 1). The potential energy discussed above aids in deployment.
13. Regarding claim 6, Viking discloses stair elements with outer edges and radial edges ("stair elements," examiner amended Fig. 1).
14. Regarding claims 7 and 8, Viking discloses stairs whose outer edges form a circle when stowed [claim 7] and whose radial edges are straight [claim 8] ("stair elements," examiner amended Fig. 1).
15. Regarding claims 10-12, Viking discloses a staging stair element [claim 10] in the form of a step [claim 12] at a fixed height for human standing clearance [claim 11] ("staging stair element," examiner amended Fig. 1).
16. Regarding claims 17-19, Viking discloses baluster elements that are in a curved [claim 17], nested [claim 19] arrangement when stowed, and a substantially straight state [claim 18] when deployed ("baluster elements," examiner amended Fig. 1).

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17. Regarding claim 20, Viking discloses rail, stair, and baluster elements that form a disc-shaped structure when stowed (examiner amended Fig. 1).
18. Regarding claims 29 and 30, Viking discloses a collapsible spiral staircase system capable of being stowed in a floor [claim 29] or ceiling [claim 30] (examiner amended Fig. 1).
19. Regarding claims 31 and 33, Viking discloses a deployment mechanism coupled to center support system [claim 31] that has a locking mechanism maintaining toe position of stair and the center support system [claim 33] ("The system is deployed in a controlled manner by a hydraulic winch system, and can be brought to a 'parked' position," archived Viking website).
20. Regarding claim 36, Viking discloses a spiral staircase system comprising:
 - a. "...at least one circular rail element..." ("rail element," examiner amended Fig. 1).
 - b. "...a plurality of stair elements having circular outer edges..." ("stair elements," examiner amended Fig. 1).
 - c. "...a plurality of baluster elements coupled to said at least one rail element and to said plurality of stair elements..." (the vertically-oriented strands of the surrounding netting are "baluster elements," examiner amended Fig. 1).
 - d. "...a center support system coupled to and supporting said at least one rail element and said plurality of stair elements, and having a stowed state and a deployed state." ("center support system" refers to plurality of vertical winch wires that extend the length of the staircase, examiner amended Fig. 1).

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21. Regarding claim 37, Viking discloses a spiral staircase system that forms a disc-shaped structure when in a stowed state (examiner amended Fig. 1).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viking (<http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument>).

25. Regarding claim 5:

- a. Viking discloses rail elements of a metallic material ("rail element," examiner amended Fig. 1). While Viking does not explicitly disclose from what material these rails are made, all other metallic components of the system (stairs,

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boarding platform, etc.) are disclosed as being made of aluminum or steel (archived Viking website). Therefore it would have been obvious to also make the rail elements out of aluminum or steel.

- b. Viking discloses the claimed invention except for rail elements made of aluminum or steel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to manufacture the rails from aluminum or steel, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

26. Regarding claim 21:

- a. Viking discloses a collapsible spiral staircase for use with an offshore rig. The staircase of Viking has a cross-sectional height per section during storage of 150mm, or 5.9 inches (archived Viking website). If one wanted to use this device in a more confined space (such as an apartment, a double-decker bus, an airplane, etc.) it would be obvious to modify the staircase by making it more compact in its stowed state in order to minimize the storage space it occupied in these confined spaces.
- b. Furthermore, it would have been an obvious matter of design choice to modify Viking by making the collapsed height of the structure approximately two inches, since applicant has not disclosed that a collapsed height of approximately two inches provides any unexpected result, and it appears that

the staircase would perform equally well with any collapsed height that allows for space-saving storage.

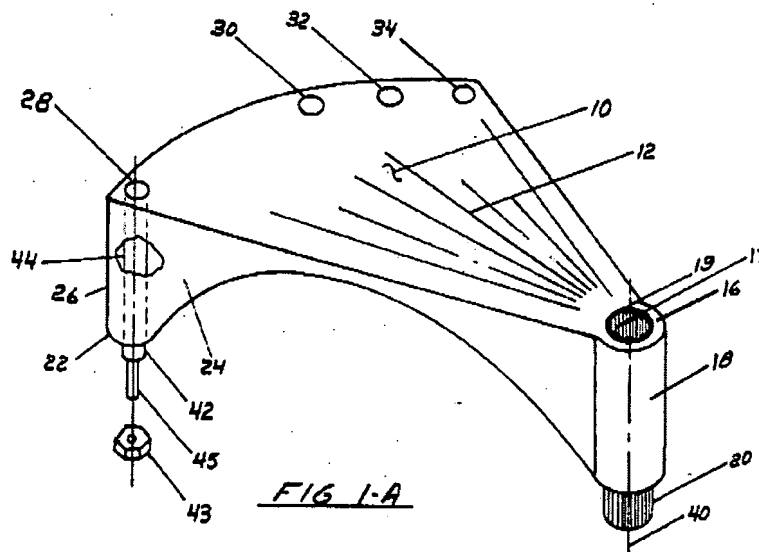
27. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Viking

(<http://web.archive.org/web/20030418025432/www.viking->

[life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-](http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-)

[Selstair?opendocument](http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument)) in view of Manna (U.S. Patent No. 5,088,248).

- a. Viking discloses a circular staircase system as set forth above.
- b. Viking does not expressly disclose stairs with curved radial edges.
- c. Manna discloses circular staircase stairs with curved radial edges ("front" 24, Fig. 1A). Adding curves to the radial edges as taught by Manna adds strength to the stair.
- d. The examiner further notes motivation for combining the references as set forth in Manna: "The front 24 of the tread may be shaped for rigidity and strength" (column 3, lines 1-4).
- e. Viking and Manna are analogous art because both are from the field of endeavor of circular staircases.
- f. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the circular staircase of Viking with curved radial edges as taught by Manna, in order to strengthen the stair.



Reproduced from U.S. Patent No. 5,088,248

28. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Viking (<http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument>) in view of Nicholls (U.S. Patent No. 5,551,372).
- Viking discloses a circular staircase system as set forth above.
 - Viking does not expressly disclose baluster elements made of a composite material. The baluster elements of Viking are netting components.
 - Nicholls discloses netting made from composites ("Mesh or netting made from polymers or composites may also be utilized," column 4, lines 16-18). Making the netting balusters from composites as taught by Nicholls allows for increased strength of the balusters.
 - Viking and Nicholls are analogous art because both are from the field of endeavor of netting.

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- e. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to produce the netting balusters of Viking from a composite material as taught by Nicholls, in order to provide the netting with increased strength.
- f. The examiner further notes that it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the netting balusters from a composite, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

29. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Viking

<http://web.archive.org/web/20030418025432/www.viking->

[life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-](http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-)

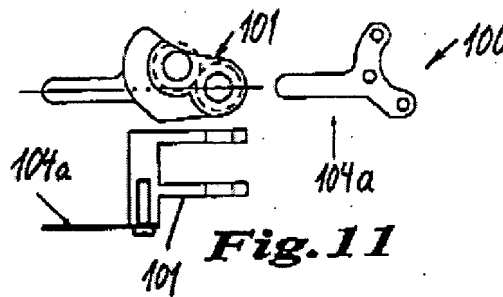
[Selstair?opendocument](http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument)) in view of Meyerdierks (U.S. Patent No. 6,431,103).

- a. Viking discloses a circular staircase system as set forth above.
- b. Viking does not expressly disclose that the deployment mechanism, or winch, comprises a deployment handled or a release mechanism releasing the support system.
- c. Meyerdierks discloses a winch with a handle ("handle" 104a, Fig. 11) and a release mechanism ("retaining device 34...releases the winding round the winch drum," column 10, lines 34-40). Adding a handle and release

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mechanism to the winch of Viking as taught by Meyerdierks allows manual deployment and storage of the collapsible staircase.

- d. Viking and Meyerdierks are analogous art because both are from the field of endeavor of winch systems.
- e. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the winch of Viking by adding a handle and release mechanism as taught by Meyerdierks, in order to regulate deployment and storage of the staircase.



Reproduced from U.S. Patent No. 6,431,103

30. Claims 22, 23, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viking (<http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument>) in view of Sandwith (U.S. Pub. No. 2002/0182026).
31. Regarding claims 22 and 23:
- a. Viking discloses the claimed invention except that the center support system is a winch system instead of a telescoping system. Sandwith shows that a telescoping hydraulic cylinder is an equivalent structure known in the art ("A

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number of possible elevating devices may be used; e.g., hydraulic cylinders, or a cable and winch system," paragraph 9). Therefore, because these two elevating devices were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute telescoping hydraulic cylinders for the winch and cable system of Viking.

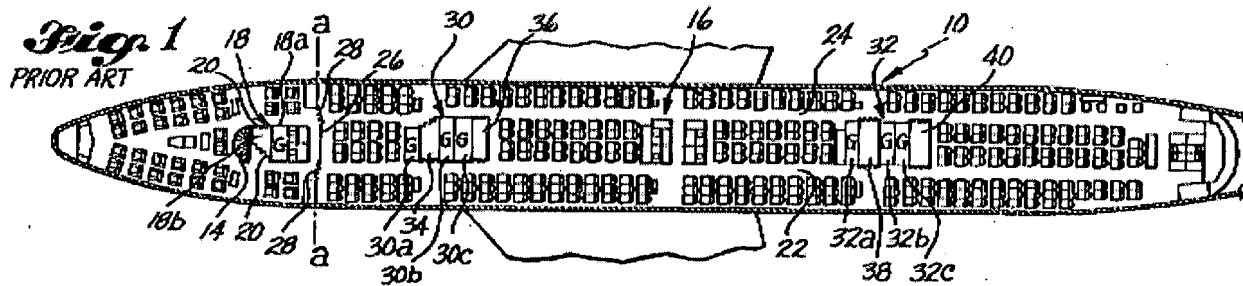
32. Regarding claims 34 and 35, the combination renders the claimed method steps obvious since such would be the logical manner of using the combination.

33. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viking (<http://web.archive.org/web/20030418025432/www.viking-life.com/usr/viking/vikingdotcom.nsf/linkopen/Subcategory-OffshoreEvacuation-Selstair?opendocument>) in view of Greiss (U.S. Patent No. 4,022,404).

- a. Viking discloses a circular staircase system as set forth above.
- b. Viking does not expressly disclose that the staircase is located in an aircraft.
- c. Greiss discloses an airplane with a spiral staircase ("central spiral stairway" 14, Fig. 1). Putting the collapsible staircase of Viking in an airplane as taught by Greiss would provide access to overhead storage containers without jeopardizing the space used by passengers and crew members.
- d. Viking and Meyerdierks are analogous art because both are from the field of endeavor of spiral staircase placement.
- e. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the staircase of Viking by using it in an

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airplane as taught by Greiss, in order to provide access to overhead storage containers without jeopardizing the space used by passengers and crew members.



Reproduced from U.S. Patent No. 4,022,404

Allowable Subject Matter

34. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Examiner notes the existence of Akselsen (U.S. Pub. No. 2007/0119654), which is assigned by Viking and discloses an apparatus similar to the Viking Selstair. The figures of Akselsen may serve to aid in the identification of features (such as the location of winch wires) pointed out by the examiner on the Viking Selstair apparatus.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Branon C. Painter whose telephone number is (571) 270-3110. The examiner can normally be reached on Mon-Fri 7:30AM-5:00PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on (571) 272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Victor Batson
Supervisory Patent Examiner
Art Unit 3609

Branon Painter
08/08/2007